Azerbaijan is Among the Exporters of the Low Value-added Variety of Products

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In recent years the Azerbaijani government has emphasized the steady growth of the non-oil sector, forecasting a gradual decline in the share of the oil and gas sector in both Azerbaijan's economy at large and its exports, which will, ultimately, secure welcome diversity in its economy. Oil exports currently threaten the stability of the economy because of the country's dependence on them. Dangers include the possible depletion of oil, volatility and Dutch syndrome among others. For this reason, export growth in the non-oil sector and economic diversification are essential to the country's economy.

According to export and import statistics for the first 6 months of 2023, non-oil exports jumped 20,6% year-over-year, to $1,8 billion. In non-oil exports the top three commodity sections were electricity ($314,4 million), tomatoes/tomato paste ($120,7 million) and cotton seed ($68,7 million). The 20,6% increase in first half year's non-oil exports superficially looks like improvement at first glance. However, even if this growth rate continues, in the best case, the ratio of oil exports to non-oil exports will be around 9:1 by the end of the year. This means that achieving the desired result towards bringing in economic diversification should not be expected in the near future.

This article will analyze how Azerbaijan's non-oil export potential is wide-ranging and at the same time high value-added. In other words, in this article I will examine what we export, but not how much we export.

Product Diversity and Economic Sustainability

As early as 250 years ago, Adam Smith argued that a fantastic increase in labor productivity can be achieved by dividing production in a pin factory into separate technological steps and having each worker specialized in one component of production. In the early 19th century, David Ricardo went even further and suggested the theory of comparative advantage. According to this theory, countries will engage in trade with one another, exporting the goods that they produce at a lower opportunity cost than its trading partners, and form a suitably qualified labor force, based on the country's labor and natural resources, ultimately referring to the uncontested superiority of a country to produce a particular good better (indicating that the country is more competitive).

No theory has yet superseded the historical inventions of the classics, and these fundamental principles continue to be the backbone of economic behavior today. What is new is that economic development over the last two centuries has incredibly enriched the variety of goods, products and services, and specialization and natural advantages are no longer enough to withstand competition in the global marketplace.

On the other hand, economic growth in itself looks risky – high growth rates in some periods can lull the government to sleep as a result of which, it is already too late to react properly when faced with economic recession in the next periods. Therefore, economic sustainability, which is conditioned by the variety of production, is a more important indicator.

Economic Complexity

The paradigm of economic complexity was jointly developed by Ricardo Hausmann at Harvard University and César A. Hidalgo at the Massachusetts Institute of Technology in 2009, based on which the Economic Complexity Index (ECI) is calculated annually. Economic complexity is based on the concepts of

relatedness, *similarity a*nd *proximity*. Relatedness shows the possibility of economic space to produce one or another good and/or product. That is, in order to offer a variety of products to the modern market, there should be a favorable business environment in the location, with the availability of a highly qualified workforce and a wide spectrum of business network types. And for this, the fundamental condition is the ability to make similar goods and products on the basis of cooperation. If a country is able to produce a high-tech product, then it should have relevant laboratories, patent rights and other opportunities. In this regard, it is easier for an economy with existing capabilities to provide similar product exports than a competitor starting from scratch. Finally, proximity measures the probability that a country exports product A given that it exports product B, or vice versa. Given that a country makes one product, proximity captures the ease of obtaining the know-how needed to create another product.

The country includes the similarity and proximity of a product it makes into its orbit, expands its diversity, and thus is able to access a wider market with similar technology, and in the end, it has a higher labor productivity. It is clear that relatedness in this case is observed more in manufacturing and less in extractive industry or agriculture. This means that it is easier to maintain relevance, especially in technology-based industries, and these types of economies export a wide spectrum of goods and products to the world market and have a more stable (sustainable) economic situation. Otherwise, by exporting a narrow range of goods of simple origin (for example, crude oil or tomatoes), the country is doomed to export a product that nearly all countries can produce and sell.

In the sense of those mentioned above, we can say that the paradigm of economic complexity ultimately demonstrates the knowledge base of goods and products.

Economic Complexity Index

Economic Complexity Index (ECI) consists of three complexity measures: trade, technology and research.

To calculate this index, the Revealed Comparative Advantage (RCA) is first calculated. RCA is determined through a quotient. The numerator of the equation shows the specific weight of the product (p) in the export of the country (c), and the denominator shows the specific weight of the product (p) in the total world exports. If the RCA quotient is greater than 1, then the country has a comparative advantage in that product (p). Based on this, RCA is calculated, which ultimately demonstrates the diversification of exports of goods and products in a given area because in order to export a complex product, the country must have a wide production base. Thus, complexity in production and export leads to the desired diversification at the last moment, which is very important for countries dependent on natural resources like Azerbaijan.

According to the latest (2021) Country Rankings, Azerbaijan ranks #85 among 131 countries in trade complexity (-0,52 points), but #78 in technology (-1,08 points) and #125 in research (-1,19 points), respectively, among 95 and 140 countries. It is worth noting that Japan is a global leader in trade complexity (+2,06). But Sweden and the USA are global leaders in technology (+1,55 points) and research (+2,41 points), respectively.

It should come as no surprise that Azerbaijan ranks low in metrics of technology and research complexity. On the contrary, it would be surprising that the country ranks relatively high in these complexity measures It is disappointing that the country ranks #85 in trade complexity. But neighboring Georgia and Armenia rank, respectively, #64 and #71. Interestingly, in 2002, at the beginning of the review period, Azerbaijan ranked #44 in these metrics of

complexity. Over the past 20 years, the country has dropped to #41. During this period, the drop in these rankings is characteristic of almost all extractive countries, and this is a clear proof of the above. But in such a sharp decline, only Venezuela is ahead of Azerbaijan.

What Azerbaijan's export diversity captures

Last year, Azerbaijan's oil and gas sector accounted for 92,5% of 38,1 billion dollar export sales. The major products of the oil and gas industry are crude oil ($19,5 billion) and natural gas (nearly $15 billion). Together, these two items make up 91% of total exports. Crude oil and natural gas by no means enhance economic complexity. Not only are these products not technology-based, but also they are generally rent rather than value-added.

Thus, we have to examine the remaining 9%, which contributes to the country's economic complexity. These are commodities worth only $3,4 billion. The main items of even this small volume are still commodities of low economic complexity. Last year, fruits and vegetables intended for export were the flagship of non-oil exports, totaling $667 million dollars. However, as we mentioned above, fruits and vegetables are commodities with low economic complexity. Thus, 92,3% of Azerbaijan's exports in 2022 were goods and products with low economic complexity. The remaining 7,7% were chemical industry products ($387 million), plastics and products made from them ($386 million), aluminum products ($218 million), cotton fiber ($175 million), and electricity ($122 million). These can be construed as examples of what is called product complexity to one degree or another. As it turns out, even those we consider potentially complex are not knowledge- and technology-intensive products.

Why is ECI Important?

In recent years Azerbaijan has experienced slow economic growth. This dynamic that is peculiar to countries blessed

with large amounts of natural resources is, in some ways, comprehensible. Azerbaijan, which saw a growth rate of 35% during the boom period (production peak of crude oil and higher oil prices in the global market), is currently content with a modest fraction of around 1-2%. Unless the current economic structure, especially production patterns change, it will be difficult to escape from this trap. And since the economic structure is conservative, it is difficult to change it quickly. Beyond that, Azerbaijan, like other countries, is experiencing an energy transition, and this process is not capable of contributing to economic growth in the current structure of the economy. In my opinion, it is precisely in this sensitive period that it is possible to analyze the problems ECI has revealed for Azerbaijan. It is possible to tailor a sustainable economic development model that can lead to the improvement of the structure of both production and, ultimately, exports. This factor should be taken into account amid massive re-building projects in Karabakh and surrounding regions.